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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,167	11/26/2001	Clarke V. Greene	100.361US01	9359
34206	7590	05/05/2004	EXAMINER	
FOGG AND ASSOCIATES, LLC P.O. BOX 581339 MINNEAPOLIS, MN 55458-1339			VU, NGOC K	
			ART UNIT	PAPER NUMBER
			2611	13

DATE MAILED: 05/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/995,167

Applicant(s)

GREENE ET AL.

Examiner

Ngoc K. Vu

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 February 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 31-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 31 and 34-38 is/are rejected.
- 7) ☒ Claim(s) 32,33,39 and 40 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>9</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed February 19, 2004 have been fully considered but they are not persuasive.

Applicant argues "there is no mention in Safadi et al that the RF combiner 35 is a directional coupler or the RF combiner 35 is or can be replaced by a directional coupler" and "Safadi et al. does not teach or suggest the method of providing redundancy in a cable modem termination as found in claim 31". These arguments are not persuasive because the following reasons:

With respect to claims 31 and 35, Burroughs of the record teaches the reliability of cable modem systems in the face of a failure in the cable modem terminating system. Specifically, the system in the Burroughs reference comprises cable modems and at least two CMTS modules, each of which is connected to a single cable so as to provide cable modem service to a respective set of the cable modems, are arranged so that at least one of the CMTSs can act as a backup for the other. That is Burroughs of the record teaches the method of providing redundancy in a cable modem terminal. Burroughs further teaches communications between the CMTSs 103 and cable modems 109 passing through a combiner 107 (see figure 1 and page 3, 0026-0028). Burroughs does not teach the combiner is a directional coupler. However, Safadi discloses that a RF combiner 35 is 12-way combiner/splitter, it may be used to merge signals from up to 12 channels or to distribute a signal to 12 outputs (see col. 8, line 61 to col. 9, line 3). The RF combiner 35 employs directional coupler circuitry to attain high channel isolation for protection from channel to channel interference. It is noted that a directional coupler is a device that combines or splits RF signals according to its standard definition. Thus, the RF combiner 35 in the Safadi reference is clearly a directional coupler since it combines signals from up to 12

inputs or splits a single signal to 12 outputs. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace combiner 107 of Burroughs with a directional coupler (RF combiner 35) of Safadi for the purpose of preventing the interference between the signals.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Therefore, the rejections of claims 31 and 34-38 are maintained.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 31 and 34-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burroughs et al. (US 2002/144284) in view of Safadi (US 5,892,910).

Regarding claim 31, Unger discloses in figure 1 a method of providing redundancy in a cable modem termination system (CMTS) (103-1... 103-N) comprising: passing communications through a combiner (107) to a primary CMTS transceiver (primary CMTS) (paragraph [0022] teaches the CMTS receives data from the various cable modems, and paragraph [0028] teaches the cable modem first communicates with the primary transceiver) during a first operation mode (normal mode of the primary CMTS transceiver); and passing the communications through the combiner to a backup CMTS receiver (the alternate CMTS transceiver) during a second operation mode (failure mode of the primary CMTS transceiver)

Art Unit: 2611

(the alternate CMTS transceiver acts as backup transceiver in the event of a failure of the primary transceiver; see abstract, paragraphs [0031]-[0034] and [0042]).

Burroughs et al. does not disclose the combiner is a directional coupler. However, Safadi discloses that a RF combiner 35 is 12-way combiner/splitter, it may be used to merge signals from up to 12 channels or to distribute a signal to 12 outputs. The RF combiner 35 employs directional coupler circuitry to attain high channel isolation for protection from channel to channel interference (see col. 8, line 61 to col. 9, line 3). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace combiner 107 of Burroughs with a directional coupler (RF combiner 35) of Safadi for the purpose of preventing the interference between the signals.

Regarding claim 34, the modified Burroughs et al. discloses entering the second operation mode upon detecting a failure of the primary CMTS receiver (paragraph [0032]).

Regarding claim 35, the modified Burroughs et al.'s figure 1 discloses a method of operating a cable modem terminal system (CMTS), comprising: communicating with one or more primary CMTS receivers (103-1...103-N) across a primary signal path during a first operation mode (normal operation mode of the primary CMTS transceiver), wherein each primary CMTS receiver has one or more upstream communication ports for communication with subscriber equipment (cable modem) and one or more downstream communication ports for communication with a head end (paragraph [0022]), and wherein a directional coupler (the combiner 107 is replaced with directional coupler, see the rejection of claim 31) is connected between each upstream communication port and the subscriber equipment and between each downstream communication port and the head end; detecting a failure of one of the primary CMTS transceiver (paragraph [0032]); and entering a second operation mode (failure mode) wherein communication with the failed primary CMTS transceiver is routed through a backup

Art Unit: 2611

CMTS transceiver (alternate CMTS transceiver) through the directional coupler associated with the failed primary CMTS receiver.

4. Claims 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burroughs et al. (US 2002/0144284 A1) in view of Safadi (US 5,892,910) and Parsons (US 3,999,171 A).

Regarding claims **36-38**, the combination of Burroughs et al and Safadi references does not disclose amplifying based on the detected signal level to create the signal with near unity gain during the second operation mode. However, Parsons discloses the gain of amplifier is adjusted to maintain the gain of the system at unity based on a control signal (see abstract and col. 2, lines 43-49). It would have been obvious to one of ordinary skill in the art to modify Unger by including adjusting the gain of amplifier at unity based on a control signal to compensate for signal loss.

#### ***Allowable Subject Matter***

5. Claims 32, 33, 39 and 40 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 32 and 39 would be allowable because Burroughs et al fails to teach the test of testing the back up CMTS transceiver without disturbing the communication through the primary CMTS transceiver.

#### ***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

Art Unit: 2611

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ngoc K. Vu whose telephone number is 703-306-5976. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Faile can be reached on 703-305-4380. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



VIVEK SRIVASTAVA  
PRIMARY EXAMINER

NV  
April 27, 2004